

**NATIONAL INSTITUTE OF TECHNOLOGY  
KURUKSHETRA**

***SUPPLEMENTARY AGENDA***

*For*

***31<sup>st</sup> MEETING OF SENATE***



**Venue of meeting**

**Senate Hall, NIT, Kurukshetra**

**Date & Time**

**30<sup>th</sup> October, 2017 at 3.00 p.m.**

**NATIONAL INSTITUTE OF TECHNOLOGY  
KURUKSHETRA-136119**

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**S 31.1(S) To consider and decide the modifications in Ph.D. ordinance**

Some modifications in Ph.D. ordinance regarding eligibility criteria and criteria for selection of experts for Ph.D. evaluation etc. have been suggested by some faculty members. The existing and proposed criteria is as follows:

**R- 3 Eligibility:**

Existing Criteria	Proposal
<p>R-3.1 Educational Qualifications: An applicant possessing the following qualification shall be eligible for admission to a Ph.D. program of the institute. Degrees obtained through distance education programs shall not be considered. The course as well as University of qualifying degree must be recognized by AICTE &amp; UGC and will be verified by Academic Section before registration.</p> <p>i) Engineering Stream Master's degree (M.Tech./ME/MS) or equivalent in relevant branch of Engineering/Technology with a minimum CGPA of 6.75 (on 10-point scale) or 60% marks in aggregate, preceded by a minimum CGPA of 6.75 (on 10-point scale) or 60% marks in aggregate in Bachelor's degree in relevant branch of Engineering/Technology</p> <p>OR</p> <p>(a) Bachelor's degree in relevant branch of Engineering/Technology with a minimum of 70% marks in aggregate or equivalent CGPA and a minimum of 10 years of work experience (at the level of Assistant Professor or equivalent) in an engineering degree level technical institute or R&amp;D organization/industry, and (b) Evidence of Master's level R&amp;D work completed.</p>	<p>Senate may consider the proposal as given by one of the Senators (pages 4 to 5) and decide.</p>

**R-11.3: Panel of Examiners**

<p>A panel of at least ten external experts, including foreign experts, and the authors of the recent papers in the references cited by the scholar in the area of his Ph.D. work would be suggested to the DRC by the Supervisor. The DRC will consider the suggested panel and will finally recommend to the Director (through Professor-in-charge, Exam.), a panel of ten external examiners, which will include five examiners from outside India, from advanced/developed countries and the rest from India, preferably from the Institutes of repute. The recommended panel will be considered and approved/modified by the Director.</p>	<p>Senate may consider the proposal as given by one of the Senators and decide (attached on page 6).</p>
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### R-16 : Viva-Voce Examination

Existing Criteria	Proposal
<p>R-16.2 (i) In case of non-availability of the Indian external examiner for conducting the viva-voce examination, the Director may appoint alternate examiner to conduct the viva-voce examination from the existing panel. If the need be, the DRC may suggest a fresh panel of examiners.</p>	<p>One of the faculty members proposed to have the provision for conducting the viva-voce on skype, in case of non-availability of the examiner to conduct the viva-voce (attached on page <b>7</b>).</p>

### R-5 : Shortlisting and Admission

<p>Clause R-5 (e)- The eligible applicants will be tested by the DRC through written test. Based on their performance in the written test, DRC can shortlist a number of candidates for interview as per the number of vacancies available in the department. The applicants, who are employed in an NIT on regular/contract (including project staff) for three years or more, are exempted from the above condition.</p>	<p>Proposal as given by Dean (R&amp;C) may be considered and decided (attached on page <b>8</b>).</p>
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### R-3.3 Eligibility for Institute Scholarship:

<p>Clause R-3.3 (g) A Ph.D. research scholar receiving institute scholarship will receive it for a duration of two years, which may be extendable to 3<sup>rd</sup> year if the research scholar has published at least one research paper before the start of 3<sup>rd</sup> year and can be extended/resumed in 4<sup>th</sup> year if the research scholar has published at least two/one research papers respectively before the start of 4<sup>th</sup> year. These research papers should be published from his research work in non-paid SCI journals <b>OR</b> such other reputed and peer reviewed journals as are recommended by the concerned DRC and approved by the Director. (h) Recommendation of extension/resumption of scholarship after second third and fourth year will be done by DRC after considering the above criteria. Extension/resumption of scholarship is subject to its availability on the date of receiving recommendations from the DRC. No institute scholarship will be given after 5<sup>th</sup> year. (amended in line with the directions of the MHRD, Govt. of India) <i>"The scholars receiving scholarship from external Govt./Autonomous organizations shall be governed by the rule and regulations issued and amended by the respective Govt./autonomous organisations".</i></p>	<p>There is need to review the condition of continuation of scholarship after two years, so that disparity among the candidates who are receiving Institute scholarship (MHRD) or from other funding agencies can be removed.  It is proposed that last para should be as: <b><i>In addition to R-3.3 (g), the scholars receiving scholarship from external Govt./Autonomous organizations shall be governed by the rule and regulations issued and amended by the respective Govt./autonomous organisations.</i></b></p>
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### R-11.1 Pre-synopsis seminar

<p>Clause R-11.1 i) (a) A research scholar will be allowed to deliver his pre-synopsis seminar only after getting at least a CGPA of 7.0/10.0 in PG courses and after publishing/getting acceptance of at least two research papers out of his research work in non-paid SCI journals <b>OR such other</b> reputed and peer reviewed journals as are recommended by the concerned DRC and approved by the Director.</p> <p>On research scholar's request for pre-synopsis seminar, DRC shall evaluate the journal publications of the scholar from his Ph.D work and consider his performance in PG courses. If found satisfactory, DRC shall assess the scholar's work through a pre-synopsis seminar. Pre-synopsis seminar shall be held not earlier than one year for full-time and 2 years for part-time scholars from the date of passing the comprehensive evaluation.</p> <p>(b) The schedule of the pre-synopsis seminar shall be notified well in advance (at least three days in advance) so as to enable the interested staff members and the students to attend it.</p>	<p>In order to achieve the uniformity for the publication across the different departments, a set criteria is to be defined for the purpose of publications under this clause.</p> <p>It is proposed that clause R-11.1 (a) should be as: <b><i>A research scholar will be allowed to deliver his pre-synopsis seminar only after getting at least a CGPA of 7.0/10.0 in course work and after publishing/getting acceptance of at least two research papers out of his research work in non paid peer reviewed SCI/SCIE/Scopus/ Web of Sciences Journals.</i></b></p>
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Keeping in view the above existing and proposed criteria for modifications in Ph.D. ordinance, the Senate may decide the modifications in Ph.D. ordinance.

Next Meeting no -

8.9.2017

Ms Madhu

(Through Proper Channel)

31/08/17

No./CE/924

31/08/2017

**Subject: Agenda item for next Senate meeting to modify Eligibility criteria for PhD admission**

This is with reference to the present eligibility criteria for admission to PhD in NIT Kurukshetra. At present R-3 of PhD ordinance reads as:

**R-3.1 Educational Qualifications:**

*An applicant possessing the following qualification shall be eligible for admission to a Ph.D. Program of the Institute. Degrees obtained through distance education programs shall not be considered. The course as well as University of qualifying degree must be recognized by AICTE & UGC and will be verified by Academic Section before registration.*

**i) Engineering Stream**

*Master's degree (M.Tech./M.E/ M.S.) or equivalent in relevant branch of Engineering / Technology with a minimum CGPA of 6.75 (on 10-point scale) or 60% marks in aggregate, preceded by a minimum CGPA of 6.75 (on 10-point scale) or 60% marks in aggregate in Bachelor's degree in relevant branch of Engineering / Technology.*

**OR**

*(a) Bachelor's degree in relevant branch of Engineering / Technology with a minimum of 70% marks in aggregate or equivalent CGPA and a minimum of 10 years of work experience (at the level of Assistant Professor or equivalent) in an engineering degree level technical institute or R & D organization / industry, and (b) Evidence of Master's level R & D work completed.*

Keeping in view the thrust on interdisciplinary research, students from different under graduate courses is opting for Masters Programme in civil engineering in different NITs and IITs (e.g environmental engineering, water resources, remote sensing). Present criteria of using "Bachelor's degree in relevant branch of Engineering / Technology" with Master's degree (M.Tech./ M.E/ M.S.) or equivalent in relevant branch of Engineering is not relevant under present conditions. Further, the rule that allows DRC to decide about the relevant branch of Bachelor's degree has been a discretionary and contentious issue.

On the other hand number of NITs and IITs (list attached) requires only post graduate degree in respective discipline to make a candidate to apply for PhD degree in their institute (List attached).

Keeping the problem faced in having suitable PhD candidate with the present set of eligibility criteria, it is requested to modify the present admission rules. The proposed rules should read as:

*An applicant possessing any one of the following qualifications shall be eligible to apply for admission to a Ph.D. programme of the Institute:*

*(a) Masters degree in Engineering/Technology/Sciences/Humanities and Social Sciences in respective discipline or equivalent with a minimum Cumulative Grade Point Average (CGPA) of 6.75 on a 10 point scale or equivalent as determined by the Institute wherever letter grades are awarded; or 60% marks in aggregate (of all the years/semesters) where marks are awarded.*

**N.I.T. KURUKSHETRA**

Dy. No. 8286		Date. 01/09/17				
R	DPD	DAC	DAD	CVO	CoE	C
E	M	EC	Co	Ph	Ch	Ma
Hu	CW	WS	SW	PC	PS	EDC
PE	CCN	PT	PCE	PRO	LMO	L
GA	A	SO	EQ	DS	PIS	PA

## PhD Admission Guidelines adopted in few other Institutes

### **NIT Calicut:**

#### **Educational Qualifications**

Post Graduate Degree in the appropriate branch of study/specialisation with minimum 60% marks ((CGPA 6.5/10) or equivalent) . For SC/ST candidates, minimum 55% marks (CGPA 6.0/10) or equivalent in the relevant areas/disciplines.

In addition to this, Candidates of Masters degree in Science/Life sciences/Humanities/Mathematics/Statistics/Computer Science & Applications/ Management etc should have a valid GATE score or UGC/NET/CSIR/NBHM/JEST/KSCSTE fellowships in relevant areas/disciplines.

Candidates applying for part-time and external schemes of registration under sponsored category may not require GATE score or any Fellowships.

### **IIT Delhi**

#### **R.1. ADMISSION ELIGIBILITY:**

R.1.1 An applicant possessing any one of the following qualifications shall be eligible to apply for admission to a Ph.D. programme of the Institute:

(a) Masters degree in Engineering/Technology/Sciences/Humanities and Social Sciences in respective discipline or equivalent with a minimum Cumulative Grade Point Average (CGPA) of 6.75 on a 10 point scale or equivalent as determined by the Institute wherever letter grades are awarded; or 60% marks in aggregate (of all the years/semesters) where marks are awarded.

(b) In exceptional cases, applicants with B.Tech. degree or equivalent in respective discipline with excellent academic record (with a minimum CGPA of 7.5 on a 10point scale or equivalent or 70% marks) may be considered eligible for admission.

(c) Applicants for admission for full-time studies who do not possess an M.Tech. degree or equivalent in the relevant field must have a valid GATE score for Engineering/Technology/Science disciplines or must have qualified national level fellowship examination such as UGC/CSIR for Science/Humanities and Social Sciences disciplines.

R.1.2 An employee of a Public Sector Undertaking, a Government Department, a Research/ Development Organisation, or a private industry (approved by the concerned Faculty Board) or an Educational Institution, with a minimum relevant working experience of two years and a Defence Sponsored Officer may be considered for admission as a sponsored (full-time)/part-time Research scholar. Sponsored applicants will be eligible for admission provided that they are treated by their employers as on duty with their normal salary and allowances and are fully relieved for the period of study.

### **NIT Jaipur**

The applicant must have a Master's degree in Engineering/Technology/Architecture with CGPA not below 6.5 on a ten point scale or 60% marks (Where CGPA is not awarded).

In exceptional cases brilliant candidates with CGPA of more than 9 (85% marks) in Bachelors degree in Engineering/Architecture may be recommended by DPGC to SPGB for admission in Ph.D. program. Such candidates having sufficient experience in the relevant area and publications in refereed conferences/journals as notified by DPGC, may also be considered. Major deliberations shall be expected from various departments while admitting any student directly on the basis of B.Tech./B.Arch. only.

### **IIT Guahati**

PhD in Engineering

(Through Proper Channel)

Sharma  
31/8/17

No./CE/925

31/08/2017

**Subject: Modifying criteria for selection of experts for PhD evaluation**

This is with reference to the exiting PhD evaluation criteria in NIT Kurukshetra. At present these rule suggests that external/internal experts should be:

1. From developed countries (for external expert)
2. Should be from IIT/NITs or any institute of repute (for internal expert)
3. Should hold the designation of professor
4. Indian origin professors from abroad should be discouraged

Keeping in view the non availability of professors especially from developed countries for PhD evaluation, following criteria may be considered and brought to next senate meeting for further discussion and implementation:

1. External expert can be from any country/nationality with a condition that he should have done significant work in research area of the PhD required to be evaluated. For proper implementation, supervisor and the candidate has to submit details of each expert and their research area with references to DRC for its consideration.
2. Same criteria as mentioned in point 1 should be applicable to Indian experts irrespective of the institute. Here first choice should be IITs/NITs but if someone in other good institute/college of industry who has done significant work in the research area can be considered. Expert <sup>from</sup> private institutes/universities lying in top 50 ranks under NIRF ranking may also be considered.
3. Expert should not only be professor but he/she can be either professor/associate professor/assistant professor. Broadening the designation criteria will help supervisor and PhD candidate to have a pool of young researchers for their PhD evaluation.
4. External/internal expert fee should be raised to a decent level.

**N. I. T. KURUKSHETRA**

Dy. No. 8987		Date: 01/09/17				
R	DPD	DAc	DAd	CVO	CoE	C
E	M	Ec	Co	Ph	Ch	Ma
Hu	CW	MS	SW	PC	PS	EOC
PE	CCN	PT	PCE	PRO	LIB	L
GA	A	SO	EO	DS	PIS	PC

Mahesh Pal  
(Mahesh Pal)  
31/8/17

Professor, Civil Department

The suggestions may kindly be put to senate for consideration pl.

Sharma  
29/8/17

Director (Chairman Senate)

Sharma  
4/9/17

May be taken as agenda point in next senate meeting

Sharma  
6/9/17

Copy to:  
Registrar (Secretary Senate)

Sharma (Acad)

Agenda for Next Meeting

Verma  
6.9.2017  
Ms Mathur



*Internal communication for taking PhD Viva on line*



director . <director@nitkkr.ac.in>

**Fwd: Re: Reg; Conduct of Ph.D Viva Voce Examination at NIT Kurukshetra**

Vijay Bajpai <vkajpai@nitkkr.ac.in>

Wed, Sep 13, 2017 at 9:00 PM

To: director@nitkkr.ac.in, Mechanical Department NITKKR <hodmechanical.nitk@gmail.com>

Respected sir

The decision may be conveyed regarding the suggestion of professor Agrawal (in preceding mail) for conducting the online Ph.D viva voce examination

Regards

----- Forwarded message -----

From: "Vijay Bajpai" <vkajpai@nitkkr.ac.in>

Date: Sep 13, 2017 6:28 PM

Subject: Re: Reg; Conduct of Ph.D Viva Voce Examination at NIT Kurukshetra

To: "Dr. Avinash Kumar Agarwal" <akag@iitk.ac.in>

Cc:

N.I.T. KURUKSHETRA					
Dy. No. 8669		Date: 15/9/17			
R	DPD	QAC	DAE	CVO	CoE
IE	MI	EE	Co	Ph	Ch
Hu	CW	MS	SW	PC	PS
PE	CCN	PT	PCE	PRO	LMO
GA	A	SO	EO	BS	PIS

Thanks sir

I will consult the authorities regarding your suggestion and will revert back to you soon.

Regards

On Sep 13, 2017 5:29 PM, "Dr. Avinash Kumar Agarwal" <akag@iitk.ac.in> wrote:

Dear Dr. Bajpai,

Thanks for contacting me. I will be happy to conduct the exam. These days, the viva can be conducted over the skype. I have done this for several NITs and also IITs since it saves a lot of time, money and resources for all involved. Kindly let me know, if it is possible. Then I shall give you a date for the exam.

Traveling from Kanpur to Kurukshetra is extremely difficult and requires me to make a 3-4 days trip. Unfortunately I do not have the luxury of taking off for so many days for conducting a PhD viva.

Best regards

Dr Avinash K Agarwal, FSAE, FASME, FNAE  
Professor, Department of Mechanical Engineering  
Indian Institute of Technology Kanpur  
Kanpur-208016 India

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*R. Discuss  
Prof S/K (Exams)  
Ravi K 14  
15.9.17*

*Dean Academic  
Let us discuss, I think  
this is a very good  
suggestion.  
15/9/17*

On 9/13/2017 4:00 PM, Vijay Bajpai wrote:

Dear Sir

Kindly suggest the date and time (preferably after 3rd October ) to conduct Ph.D. viva voce examination of Mr Devander Kumar (Reg. No. 2K11-NITK-Ph.D-1377).

I have been assigned the responsibility by the HOD of the department to conduct the said examination as Prof. Sudhir Kumar (Supervisor of the candidate from the department) has been retired

Please also intimate your travel itinerary so that necessary arrangements may be made at our end

Thanks and regards

Vijay Kumar Bajpai

B.Tech, M.Tech, Ph.D (Mechanical Engineering)

*Matter will be taken up  
in the next senate meeting.  
15.9.2017*

*Ms. Mathura*

		JAG	CVO	CoR	C
		Co	Ph	Ch	Inf
		SW	PC	PS	EDC
		PT			
A	10	15			PC

No. Dean(RC)/17/130

Dated: 28.09.2017

**Subject: Proposal to relax the condition of written test for shortlisting and admission to Ph.D. program for candidates from Government R & D organisations and national laboratories**

**Agenda item for ensuing senate meeting**

This has reference to Clause R-5(e) of the Ordinances and Regulations for the Degree of Doctor of Philosophy of NIT Kurukshetra defining *shortlisting and admission* of the candidates in the Ph.D. programme. The clause reads,

"The eligible applicants will be tested by the DRC through written test. Based on their performance in the written test, DRC can shortlist a number of candidates for interview as per the number of vacancies available in the department. The applicants, who are employed in an NIT on regular /contract (including project staff) for three years or more, are exempted from the above condition".

In addition to developing effective and outcome based tie-ups and interface with industries, the Institute has taken imperative initiative to connect Ph.D. program with industries and R & D organisations.

Attracting candidates from industries and R & D organisations to the Ph.D. program will certainly enhance the research outcomes to significant extent and will make industry interaction effective with tangible value addition.

In view of the above, a proposal is hereby submitted to exempt the candidates from government R & D organisations and national laboratories from the condition of written test for short listing and admission to the Ph.D. program.

Submitted for consideration as agenda item in the ensuing senate meeting.

*Brahmjit Singh*  
 (Brahmjit Singh) 28/09/17  
 Dean (RC)

Dean, Academic

For n.a. pl.  
*[Signature]*  
 29/9/17

Copy to

- 1. SS to Director for kind consideration of the Director
- ✓ 2. SS to Registrar for kind information of the Registrar

*[Signature]*  
 Dean Acad



**S 31.2(S) To consider and decide acceptance of soft copy of dissertation/thesis in M.Tech. & Ph.D. programmes**

The Library Committee in its meeting held on 13.10.2017 took some decisions vide letter No. L-568 dated 17.10.2017 (page 10). The Hon'ble Director approved the following decision for discussion in the Senate meeting.

**"The Library Committee recommended that only soft copy of dissertation and thesis may be accepted in the library and these may be made available to users through Library platform and institutional Digital Repository."**

The Senate may consider and decide on the above recommendations.

NATIONAL INSTITUTE OF TECHNOLOGY LIBRARY  
KURUKSHETRA

No. L- 548  
Dated - 17.10.2017

A meeting of the Library Committee was held on 13.10.2017 at 04.30 PM in the Library under the Chairmanship of Prof. Parvatha Aggarwal, Chairman, Library Committee.

Present:-

S No.	Members, Library Committee	Department	
1.	Prof. Parvatha Aggarwal	CFD	Chairman
2.	Dr. Saurabh Charana	EED	Member
3.	Sh. Chandro Bhan Bhan Singh	CO	Member
4.	Dr. Ram Kumar Tital	CH	Member
5.	Dr. M. Firoz	MBA	Member
6.	Dr. Krishan Gopal	Library	Librarian

Following Decisions were taken:

1. Increase in number of books to be issued to students from Book Bank: The committee recommended that all students may be given 6 books from Book Bank instead of 5 and after one round of issue, number may be increased to 8 subject to availability of books and number of subjects in a particular semester.
2. To accept only softcopy of dissertation/Thesis: The committee recommended that only softcopy of dissertation and thesis may be accepted in the library and these may be made available to users through Library platform and institutional Digital Repository.
3. To replace the chair in e-resource Centre, Circulation Counter and Office: The committee recommended that old and old chairs in e-resource Centre, Circulation Counter and Office may be replaced with new Chairs.

Minutes are submitted for approval, Please.

Parvatha  
17/10/17  
Chairman, LC

h. h. 17/10/2017  
Librarian

Registrar

17/10/17

Director (a) Pt. (2) may be taken to Senal for discussion.  
(b) Point 3 may be approved

R  
17/10/17  
Registrar

17/10/17

Matter to be taken up in the  
3rd Senate meeting as supplementary  
agenda. 17/10/17

**S 31.3(S) To apprise and seek suggestions on the action plan on External Peer Review recommendations.**

The External Peer Review Committee recommended by the Council of NITs visited the Institute during January 21-23, 2016. The Committee submitted its report in May, 2016. The recommendations of the committee are available on the institute website. The same was placed in 29<sup>th</sup> Senate meeting held on 20.2.2017. Vide item no. 29.25, it was decided that Prof. A. Swarup will analyze and summarize the action plan. It was prepared and circulated the action plan among the faculty members through email dated 20.9.2017 (from pages 12 to 49). Only one suggestion was received from Dean (Faculty Welfare) (attached page no. 50).

The Senate may consider and decide.

**Progress and Actions in Hand  
on the  
Recommendations of  
External Peer Review Committee (EPRC)**



**42<sup>nd</sup> Meeting of BoG**  
**National Institute of Technology Kurukshetra**  
June 27, 2017

## OUTLINE

- Actionable Points from Suggestions of External Peer Review Committee
- Action Plan for Improving Ranking
- Major Decisions in Senate Meeting
- Status of Student Placement

## Actionable Points from Suggestions of External Peer RC



## Abstract of EPRC Report

- Critical Parameters of functioning of NIT Kurukshetra
- Committee presented data based *Observations* and recommended *Suggestions for Improvements* in the following areas:
  - a) Faculty
  - b) Infrastructure
  - c) Academic Quality Management
  - d) Post Graduate Programs
  - e) Staff
  - f) Research, Consultancy and Industry Outreach
  - g) Alumni Outreach
  - h) Grievance Redress

## (a)Faculty

Sr. No.	Reported Suggestions for Improvement	Actions in hand
1.	Implementation of comprehensive Faculty Development Program (FDP) at Institute level ( Teaching and Research)	<ul style="list-style-type: none"><li>❖ Process initiated for framing a Policy</li><li>❖ MOUs with premier Institutes for FDP are being explored</li><li>❖ All faculty members will be encouraged to participate</li></ul>
2.	Attract better quality Contract Faculty	Recruitment for session 2017-18 is in process with increased Consolidated Salary to attract PhD Qualified faculty

## (b) Infrastructure

Sr. No.	Reported Suggestions for Improvement	Actions in hand
1.	Increase in M.Tech and PhD Programs/ Seats should be mapped with Infrastructure availability/ plan	<ul style="list-style-type: none"> <li>• Peer Review of the M. Tech and PhD Programs to give them an Industry / R&amp;D Orientation is planned in coming academic year.</li> <li>• Subsequent to the review process, funding will be sought to provide adequate space and laboratory as per the requirements of the programs.</li> </ul>
2.	<ul style="list-style-type: none"> <li>• Upgrading Computational Infrastructure</li> <li>• Establish Cloud / High Performance Computing and Networking facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Process initiated for signing an MoU with C-DAC Pune.</li> <li>• Process initiated for making entire campus Wi-fi enabled.</li> </ul>

## (c) Academic Quality Management

Sr. No.	Reported Suggestions for Improvement	Actions in hand
1	Sustained and holistic efforts for improving – faculty, curriculum, pedagogy, assessment, teaching and learning	<ul style="list-style-type: none"><li>• <b>New curriculum</b> will be effective for all B. Tech programs w. e. f. academic session 2017-18.</li><li>• <b>Student's Feedback mechanism</b> on overall improvement, Faculty performance review has been initiated.</li><li>• An <b>Independent Agency</b> will be hired to provide SWOT analysis of all stake-holders through feedback mechanism from new academic session which will result in improvement of academic quality.</li></ul>

## (d) Post Graduate Programs

Sr. No.	Reported Suggestions for Improvement	Actions in hand
1	To review efficacy of newly started PG programs regarding student employability and industry demand	<ul style="list-style-type: none"> <li>❖ Peer Review of the M. Tech and PhD Programs to give them an Industry / R&amp;D Orientation is planned in coming academic year.</li> <li>❖ Subsequent to the review process, funding will be sought to provide adequate space and laboratory as per the requirements of the programs so as to improve their employability.</li> <li>❖ More efforts are being made to identify such industries and intensive marketing</li> </ul>
2	To arrange remedial classes for improving employability of PG students	<ul style="list-style-type: none"> <li>❖ Provision of Summer Courses initiated.</li> <li>❖ Module courses for Skill enhancement will be conducted.</li> </ul>
3	To establish Focused Cell in Placement Office to cater the specific requirements of PG students	<ul style="list-style-type: none"> <li>❖ Being implemented</li> </ul>

## (e) Staff

Sr. No.	Reported Suggestions for Improvement	Actions in hand
1.	To recruit regular sanctioned Staff	<ul style="list-style-type: none"><li>❖ Recruitment process is on for advertised positions</li><li>❖ Remaining positions will be advertised</li></ul>

## (f) Research, Consultancy and Industry Outreach

Sr. No.	Reported Suggestions for Improvement	Actions in hand
1.	NIT faculty should be engaged in research areas of national initiatives like Smart Cities, Digital India, Smart Grids etc.	<ul style="list-style-type: none"> <li>❖ Efforts are being made to harness next generation technologies               <ul style="list-style-type: none"> <li>• Smart Grid Project in collaboration with MNRE through DST</li> <li>• Solid Waste Management project in collaboration with Ministry of Urban Development (MoUD)</li> </ul> </li> </ul>
2.	The research and publications should be relevant to Industry	<ul style="list-style-type: none"> <li>❖ Faculty Visits to industry and R&amp;D Labs have taken place and Industry experts have been invited to the institute for interaction to finalize the live projects for B.Tech/ M.Tech students.</li> </ul>
3.	NIT faculty should participate in research at IIT on deputation under mentorship of senior IIT faculty	<ul style="list-style-type: none"> <li>❖ Developing relations with IITs (MoU) and encouraging faculty to participate</li> </ul>
4.	NIT should increase industrial consultancy and improve its perception in clients by leveraging alumni and industrial cluster in Haryana	<ul style="list-style-type: none"> <li>❖ Efforts are being made to enhance industrial collaborations</li> </ul>

## (f) Research, Consultancy and Industry Outreach

Sr. No.	Reported Suggestions for Improvement	Actions in hand
5.	NIT faculty should focus on resource generation and be actively involved in up-scaling: Sponsored Research, Industrial Consultancy and Professional Programs	<ul style="list-style-type: none"> <li>❖ Since Nov 2016, 51 R&amp;D Project proposals submitted worth Rs 14.5 crores</li> <li>❖ Ongoing R&amp;D Project – 24 worth Rs 5 crore</li> <li>❖ <b>MoUs signed with</b> <ul style="list-style-type: none"> <li>• Delta Power Solutions India Private Ltd, Gurgaon</li> <li>• Yamaguchi University, Japan</li> </ul> </li> <li>❖ <b>MoUs under progress:</b> <ul style="list-style-type: none"> <li>• C-DAC, Pune</li> <li>• TBRL Chandigarh</li> <li>• Renewable energy promotion association</li> <li>• Department of new and renewable energy , Haryana</li> <li>• Infosys Campus Connect Programme</li> </ul> </li> </ul>



## Memorandum of Understanding in effect

- Delta Power Solutions India Private Ltd, Gurgaon
  - *Understanding & Objectives*
  - To develop and execute education and research projects
  - To promote the development and exchange of personal, knowledge and technology between NIT Kurukshetra and Delta
  - Cooperative Education
  - 15 Students of NIT Kurukshetra have undertaken hands-on training at Delta Power Solutions, India Pvt Ltd, Guragon.
- Yamaguchi University, Japan
  - Faculty and scholar from Yamaguchi University, Japan conducted Global Engineering Training Programme at NIT Kurukshetra in the month of March 2017.
  - One faculty from NIT Kurukshetra had visited Yamaguchi University for collaborative research work under the MoU.

## Memorandum of Understanding in Process

- C-DAC, Pune
  - Establishment of "PARAM Shavak", supercomputing facility at NIT Kurukshetra.
  - Creation of high performance computing facility and resources for deep learning. It shall make huge impact in academics and research in the above mentioned areas.
- TBRL Chandigarh
  - Institutional cooperation scheme with focus on applied research
  - Joint projects to develop new applications in the field of materials, blast and shock waves, pulse power systems etc.
- Renewable energy promotion association
  - Establishment of centre of excellence for skill development in the area of solar/wind/thermal power systems

## Memorandum of Understanding in Process

- Department of new and renewable energy , Haryana Chandigarh
  - To set up quality control laboratory for solar photovoltaic devices
- Infosys Campus Connect Programme
  - Faculty enablement programme for enhancing the quality of technical education through course materials from Infosys
  - Project bank of B Tech students
  - Infosys courseware access
  - Special lectures by experts from Infosys at NIT Kurukshetra

## (g) Alumni Outreach

### **Reported Suggestions for Improvement**

Role of alumni should be used in strengthening the institutional

- Perception
- Relation with industry
- Generate grants and endowments
- Faculty as Adjunct / Guest
- Curriculum and students employability

## Perception

- A group of students made responsible for disseminating relevant information on the social media on a regular basis under the supervision of Dean (Student Welfare) and the PRO of the Institute.
- More interactive and User friendly Institute website launched which will be updated regularly.
- NIT Kurukshetra Alumni Association (NITKAA) has signed an agreement with Usercible UX Consulting to Perform Alumni Website Design and Development Services.

## Relation with industry

- Alumni involvement in Board of Studies (BoS), External Peer Review (EPR) and Departmental Visiting Committee (DVC) etc.
- Involvement of Alumni in New curriculum development process.
- Alumni Association has signed an agreement with Diony Systems Pvt. Ltd. Bangalore to create digital networking platform to be used by our students and our alumni for mentorship, internship and research projects etc.
- 'Alumni Talks' on semester basis on latest trends and technologies in Industry.
- Alumni interaction planned with fresh students from the first day i.e. the day of orientation.
- Alumni Interaction planned once every month.

## Generate Grants and Endowments

- A project proposal initiated to set up a Solar PV testing Lab at the institute worth 7.91 Crore. Proposal has been sent to MNRE Government of India with the recommendations of Sh Ankur Gupta (Alumnus of 1981 batch), Principal Secretary, Department of Renewable Energy, Govt of Haryana
- Collaborative research Projects/MoU are in the process with the support of different Alumni of the Institute.
  - Setting of the lab - Power Grid
  - Setting of the lab – Control and Automation
- Efforts are being made to establish various merit-cum-means scholarships and awards including Overall Excellence Award and branch Topper etc. for the students of the Institute.

## Faculty as Adjunct / Guest

- Many Alumni have consented to conduct the Module courses (Short courses of One week or Two week duration). It will be implemented from the next academic session.
- One such module course on Control Systems and Missile Guidance was conducted in Nov 2016 for the students by the Department of Electrical Engineering in collaboration with DRDO Hyderabad.
- Many Alumni from Industry and R&D Organizations have consented to collaborate work for PhD / M. Tech dissertations.



## Students Employability

- Leveraging Alumni Network:
  - To improve the Placement Scenario.
  - Enhancing Skills (soft as well as technical skills)
  - Training / Summer Internship
  - Industrial Visits

## (h) Grievance Redressal

- A Committee has been constituted for Grievance Redressal for the Faculty and staff members
  - Status report
    - Total cases filed -37
    - Cases resolved - 25
- Online Grievance Redressal portal is available for the Students, which was inaugurated by the Hon'ble HRD Minister in the recent NIT Council Meeting at Shimla.

# Action plan for improving NIRF Ranking

June 27, 2017

Progress and Action taken Report 2017

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## NIRF-2017 Analysis

- Position of NIT Kurukshetra in NIRF
  - All India 60<sup>th</sup>
  - Among NITs 12<sup>th</sup>
- Summary of Ranking Parameters and Weightages - 2017

Sr. No.	Parameter	Marks	Weightage
1	Teaching, Learning & Resources	100	0.30
2	Research and Professional Practice	100	0.30
3	Graduation Outcomes	100	0.20
4	Outreach and Inclusivity	100	0.10
5	Perception	100	0.10

I. TEACHING, LEARNING & RESOURCES (TLR) RANKING WEIGHT: 0.30	MEASURES in hand
A. Student Strength including Doctoral Students(SS): 20 Marks	<b>Full time Doctoral student number increased</b> (54 new students added). Furthermore Full Time Scholars will be encouraged. MHRD requested to enhance the scholarships number.
B. Faculty-student ratio with emphasis on permanent faculty (FSR): 30 marks	<b>Consolidated Salary</b> for the Contract faculty for the next academic year has been substantially increased to attract the PhD qualified faculty.
C. Combined metric for Faculty with PhD (or equivalent) and Experience (FQE): 20 marks	Around ten Non-PhD Regular faculty have recently <b>submitted their PhD thesis</b> . Other faculty members are also pursuing and being encouraged.
D. Financial Resources and their Utilisation (FRU): 30 Marks	<b>Modernization of Labs</b> started on priority basis. New equipment purchased. <b>CPDA process simplified</b> so as to enhance the utilization of Financial resources.

II. RESEARCH AND PROFESSIONAL PRACTICE (RP) RANKING WEIGHT: 0.30	MEASURES in hand
A. Combined metric for Publications (PU): 30 marks	Regular Faculty members have been <b>encouraged to publish</b> research papers / articles in Scopus/ Web of Science journals.
B. Combined metric for Quality of Publications (QP): 40 marks	Faculty are encouraged to start <b>collaboration with International Faculty</b> as well as on Inter-disciplinary basis.
C. IPR and Patents: Filed, Published, Granted and Licensed (IPR): 15 marks	<ul style="list-style-type: none"> <li>• IPR Cell to be formed in next 2 months.</li> <li>• A Subject of IPR has been introduced in new curriculum</li> <li>• Three Centers of Excellence planned in the area of Cyber security, Composite Material and Renewable Energy.</li> <li>• Establishment of new labs by Industry such as Smart Grid Lab in Electrical Engineering department by Tata Power</li> </ul>

II. RESEARCH AND PROFESSIONAL PRACTICE (RP) RANKING WEIGHT: 0.30	MEASURES in hand
D. Footprint of Projects, Professional Practice and Executive Development Programs (FPPP): 15 marks	<ul style="list-style-type: none"> <li>• <b>Applied for 12 GIAN courses</b> and got approval for <b>the two</b>. The rest are in process.</li> <li>• Around <b>fifty-one new projects</b> (worth Rs Fourteen crore) have been applied for since <b>Nov 2016</b>.</li> </ul>

III. GRADUATION OUTCOMES (GO) RANKING WEIGHT: 0.20	MEASURES in hand
A. Combined metric for Placement, Higher Studies, and Entrepreneurship (GPHE): 40 marks	Leveraging Alumni network to improve the placement scenario through various programs. <b>Innovation and Entrepreneur Development Cell</b> is being established.
B. Metric for University Examinations (GUE): 15 marks	<b>Graduation scheme has been modified</b> to suit the requirements of Industry and to provide students more time for self study.
C. Median Salary (GMS): 20 marks	Priority for Campus Placement is given to companies with higher salary package.
D. Metric for Graduating Students Admitted Into Top Universities (GTOP): 15 marks	Students interested in getting admission in Top Universities are facilitated through various workshops / programs.
E. Metric for Number of Ph.D. Students Graduated (GPHD): 10 marks	Number of PhD Students Graduated: 36 in 2016 Number of PhD Students Graduated: <b>45 in 2017</b>



IV. OUTREACH AND INCLUSIVITY (OI) RANKING WEIGHT: 0.10	MEASURES in hand
A. Percent Students from other states/countries (Region Diversity RD): 30 marks	<ul style="list-style-type: none"> <li>• International Collaborations for Student Exchange program planned (<b>Yamaguchi University, Japan; University of Maryland and University of Illinois, USA</b>)</li> <li>• Students from other states / countries are admitted as per government rules.</li> </ul>
B. Percentage of Women (Women Diversity WD): 25 mark	<b>More representation of women</b> in Institute Administration (Dean-1, HoD-3 & Prof In-charges-5)
C. Economically and Socially Challenged Students (ESCS): 25 marks	Students from different strata's of society (Economic and Social) are admitted as per government rules.
D. Facilities for Physically Challenged Students (PCS): 20 marks	<b>Campus has been upgraded</b> to suit the special requirements of differently able students. Lifts and ramps planned for all buildings.

V. PERCEPTION (PR) RANKING WEIGHT: 0.10	MEASURES in hand
A. Peer Perception: Employers and Research Investors (PREMP): 25 marks	<ul style="list-style-type: none"> <li>• More interactions with Industry, Alumni and R&amp;D organizations in the form of Management Development Programs (MDP) and Workshops have been planned.</li> <li>• Peer Review from employers and Research Organizations will be conducted from the next academic session.</li> </ul>
B. Peer Perception: Academic Peers(PRACD): 25 marks	Interactions with other NITs, IITs & IIITs are being actively pursued.
C. Public Perception (PRPUB): 25 marks	<p>More active presence of the Institute in Cyber-world through Social Media e.g. Official Facebook page of the Institute has been started.</p> <p>More Press-conferences about the current developments in the Institute.</p>
D. Competitiveness (PRCMP): 25 marks	Applied for NBA. Once accredited, the Institute will have better competitiveness.

## **Major Decisions in Senate meetings**

June 27, 2017

Progress and Action taken Report 2017

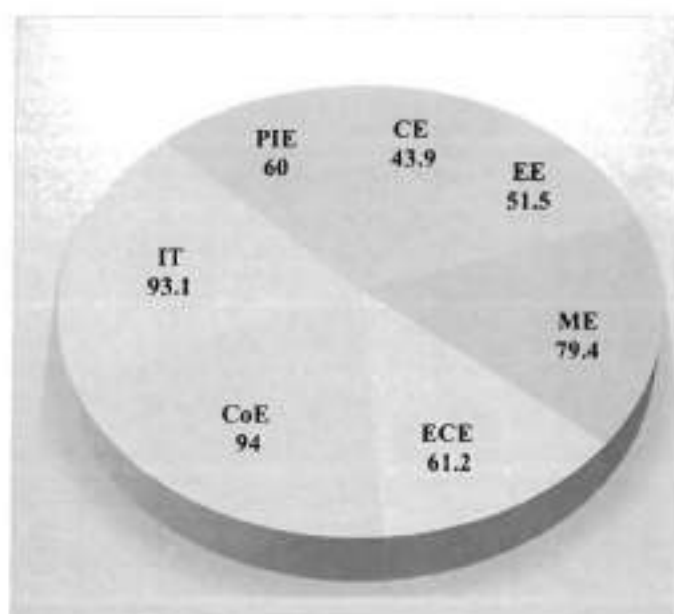
30

- **Two Senate meetings** held: 20-02-2017 and 06-06-2017
- **New Curriculum of all disciplines of B. Tech.** was approved to be implemented from 2017-18 session
- **Summer Courses** will be initiated from next academic session.
- Report of **External Peer Review Committee (EPRC)** was presented.
- **Peer Review Committee** visited the **Department of Business Administration** (on May 20, 2017). The report was presented in Senate. The following measures were suggested by the Committee to improve the employability of the students:
  - More Interactions with Industry of nearby areas.
  - More Academic presence by means of Workshops / Conferences

## Status of Students' Placement

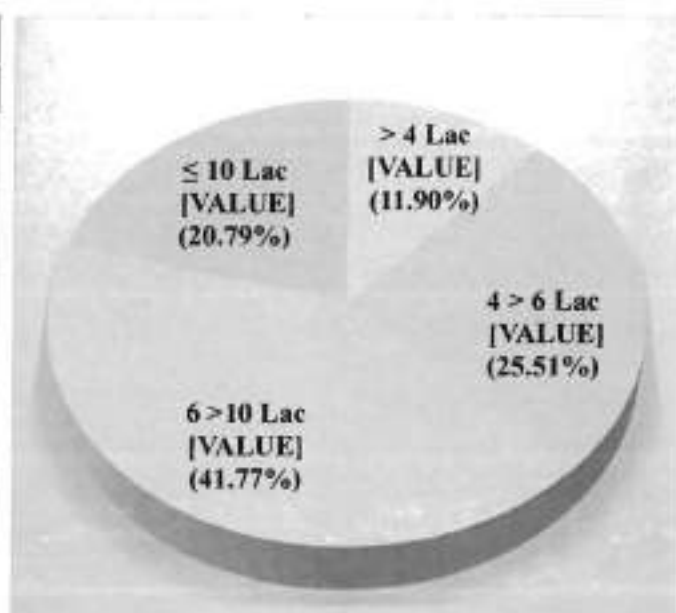
## Percentage Placement discipline wise B. Tech. (2016-17)

S. No	Discipline	Enrolled Students	No. of Offers	Students Placed
1	Computer Engineering (CoE)	100	94	79
2	Information Technology (IT)	88	82	69
3	Electronics & Comm. Engg. (ECE)	116	71	69
4	Mechanical Engineering (ME)	146	116	99
5	Production & Industrial Engg. (PIE)	65	39	33
6	Electrical Engineering (EE)	134	69	64
7	Civil Engineering (CE)	132	58	49
<b>Total</b>		<b>781</b>	<b>529</b>	<b>462</b>

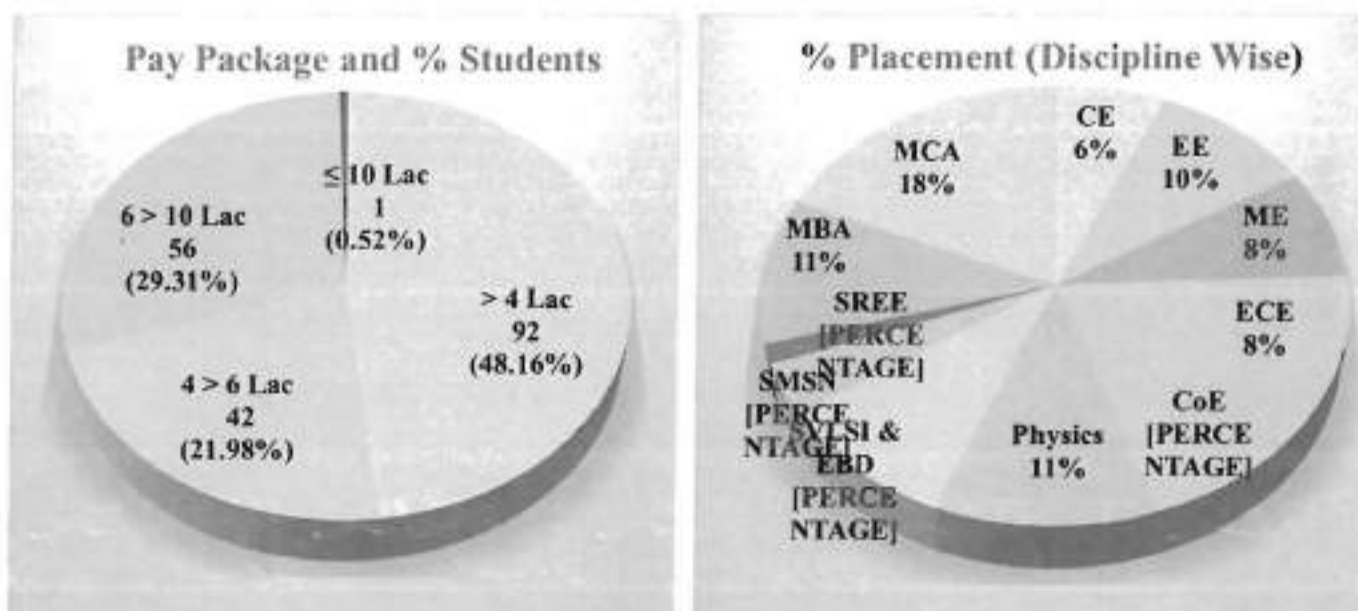


## Pay package and Percentage students B. Tech. (2016-17)

S. No	Discipline	Pay Package (Lac)		
		Range	Mean	Median
1	Computer Engineering (CoE)	3.35-26.98	10.34	9.00
2	Information Technology (IT)	3.35-26.98	9.83	8.88
3	Electronics & Comm. Engg. (ECE)	3.35-18.00	6.13	6.00
4	Mechanical Engineering (ME)	3.35-18.00	6.75	6.00
5	Production & Industrial Engg. (PIE)	3.35-18.00	6.43	5.55
6	Electrical Engineering (EE)	3.35-18.00	6.53	6.00
7	Civil Engineering (CE)	3.24-18.00	5.20	4.8

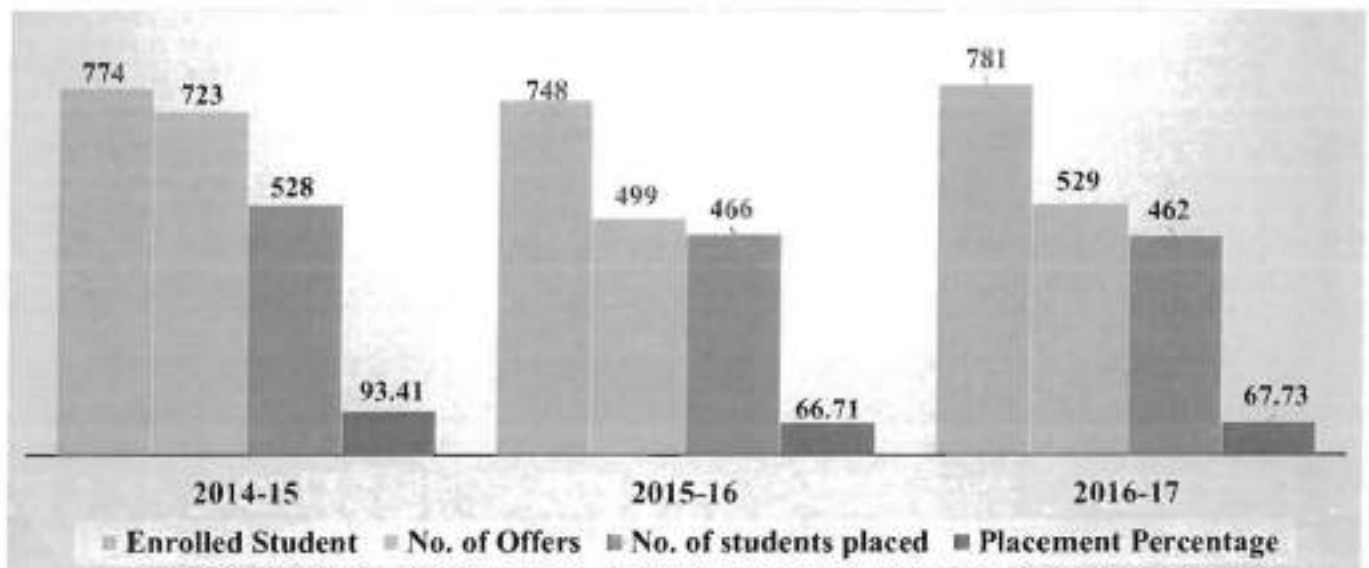


### Placement statistics Post Graduate (2016-17)

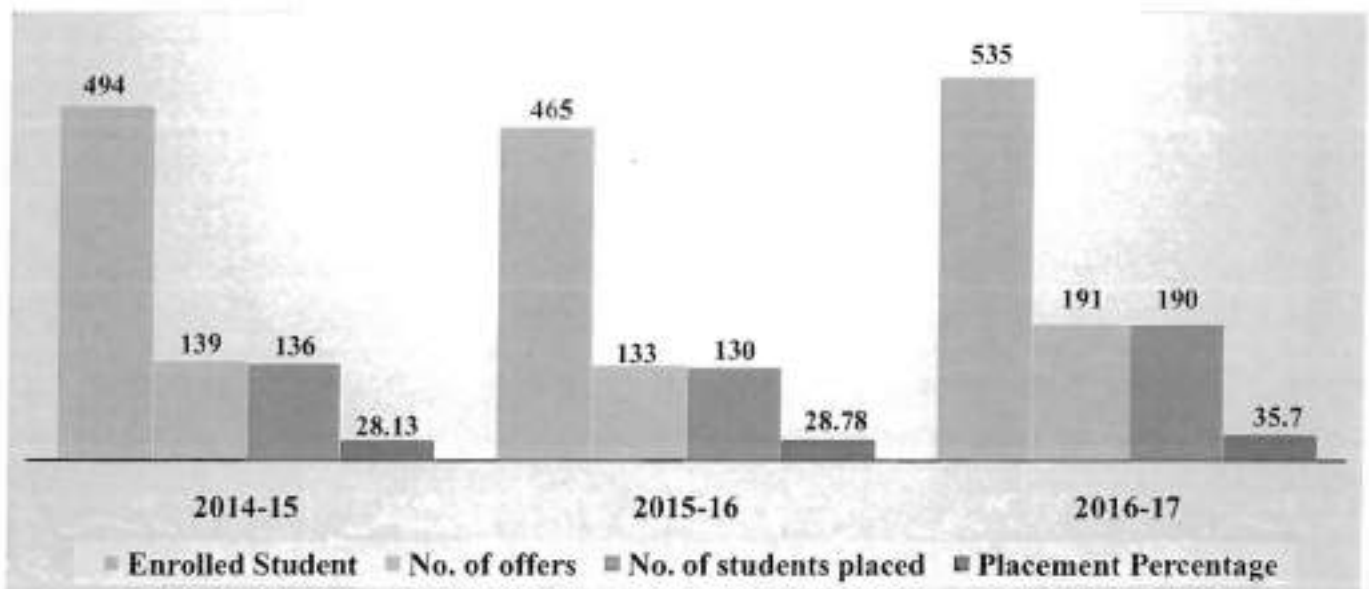




### Three Years Comparative Statistics (B. Tech.)



### Three years Comparative Statistics (Post Graduate)



## Major recruiters



Total no. of companies visited during session 2016-17: 134

**OFFICE OF THE DEAN(FW)  
NATIONAL INSTITUTE OF TECHNOLOGY  
KURUKSHETRA**

Dean(FW)/17/428

Dated : 28-9-17

With reference to your mail dated 20.9.17 on the updated presentation regarding the action taken on EPR recommendations to be made before the Chairman BOG on 8.10.2017 related, please find herewith the information as given below:

1. **Faculty Development activities attended by faculty during January - September, 2017**

Sr.No.	Description	Abroad	India	Total
1.	International Conference	16	14	30
2.	National Conference	-	09	09
3.	Workshop/STC/Training/ Symposia etc.	01	51	52

2. **Two faculty development programmes were conducted (sponsored by TEQIP-II)**

1. One week (6 days) Training Programme on Professional Development of Teachers (TPPDT) from March 15-20, 2017.
2. One week (6 days) workshop on Molecules & Materials Technology: Interface with R & D and Industries(MMT 2017) from March 21-26, 2017.
3. Seminar on "Bispidine Coordination Chemistry - Ligands for Medicinal Chemistry: Bioinorganic Modeling and Oxidation Catalysis" by Professor Peter Comba, the eminent scientist and Director IWH from University of Heidelberg, Germany on 22.9.2017 for faculty and Post graduate/Ph.D. students.
4. Dean(FW) Office assisted in framing the guidelines to evaluate the candidates for the recruitment of temporary faculty keeping in view of quality selection.

  
(Minati Baral)  
Dean(Faculty Welfare)  
28/9/17

Dr. A. Swarup,  
Professor,  
Electrical Engg. Deptt.

Copy to Dean (Acad.)



**S 31.4(S) To consider the proposal for introduction of new elective subject in M.Tech. (I&P) & revision of Syllabus of the subject of Operation management ME-544T in M.Tech. (I&P)**

The department of Mechanical Engineering has proposed to introduce one new elective subject of 'Supply Chain Management & Logistics, ME-553T' for M.Tech. in Industrial & Production Scheme and also amended the syllabus of one subject 'Operation Management, ME-544T'. In this regard, the recommendations and approval of Board of Studies of the department are attached from pages 52 to 53. Syllabi for both the subjects are attached from pages 54 to 57.

The Senate may consider the above proposal and decide.

DEPARTMENT OF MECHANICAL ENGINEERING  
NATIONAL INSTITUTE OF TECHNOLOGY  
KURUKSHETRA

No. MED/17/1930

Dated: 24.10.2017

Subject: - Regarding introduction of new elective subject of **Supply Chain Management & Logistics** ME-553T in M.Tech. (I&P) & revision of Syllabus of the subject of Operation Management ME-544T in M.Tech (I&P).

The Department proposed to introduce one new elective subject of Supply Chain Management & Logistics ME-553T for M.Tech. (Mechanical) in Industrial & Production Scheme and also amend the syllabus of one subject of M.Tech. (I&P) Operation Management ME-544T. The Matter was put up in the meeting of Board of Studies (BOS) held on 26.05.2017. Board of Studies (BOS) approved this new subject & revision of syllabus of ME-544T under item no. 2 & item no. 3. The Minutes of the meeting of Board of Studies (BOS) held on 26.05.2017 were sent to your office for necessary action but the matter could not be taken up in the last meeting of the senate.

You are requested to include both this items in the next meeting of the Senate to be held on 30.10.2017 for approval. Syllabi for both the subjects are attached.

*Sukh 24/10/17*  
Head of Department

Dean (Academic)

**DEPARTMENT OF MECHANICAL ENGINEERING  
NATIONAL INSTITUTE OF TECHNOLOGY  
KURUKSHETRA**

No. MED/BOS/171/977

Dated: 05.06.2017

Minutes of the meeting of Board of Studies (BOS) held on 26.05.2017 (Friday) at 11.00 A.M. in the conference room of the department. The following members were present:

Prof. Surjit Angra	In-chair
Prof. Dixit Garg	Member
Prof. P.C. Tewari	"
Prof. Hari Singh	"
Prof. Pankaj Chandna	"
Prof. V.K. Bajpai	"
Prof. Gian Bhushan	"
Dr. Aj'ai Jain	"
Dr. (Mrs.) Meenu	"
Dr. Gulshan Sachdeva	"
Dr. Jitender Kumar	"
Dr. Rajneesh	"

The Chairman, BOS welcomed the members. After detailed deliberations the following decisions were taken.

**Proceedings & Decisions taken:-**

1. The revised curriculum structure (scheme & syllabi) for B.Tech (Mechanical Engineering) and B.Tech (Production & Industrial Engineering) was deliberated in meeting. After detailed discussion it was resolved that the curriculum structure for both the programs be approved and committee for curriculum revision headed by Prof. P.C. Tewari was authorized to make minor changes if required before sending them to Dean Academic for approval of the senate.

Under any other items:

2. It was decided to introduce new elective of Supply Chain Management & Logistics ME-553T in the list of electives for M.Tech (Mechanical) in Industrial & Production scheme (copy of syllabus attached)
 

L T P
3 0 0
3. It was resolved to amend the syllabus contents of M.Tech (I&P) elective subject Operation Management ME-544T (copy of amended syllabus attached)
 

L T P
3 0 0

There being no other item, the meeting ended with vote of thanks to the Chair.

*Suman*  
Head of Deptt. 5/6/17

**All BOS Members**

Copy to:  
Dean (Acad.) for information and necessary action.

**MASTER OF TECHNOLOGY IN MECHANICAL ENGINEERING  
(INDUSTRIAL & PRODUCTION ENGINEERING)  
ME- 53TSUPPLY CHAIN MANAGEMENT AND LOGISTICS**

L	T	P/D	Cr.
3	-	-	3.0

**Course Objectives:** To understand concept of Supply Chain Management and apply this knowledge to understand the working of corporate world.

**Contents:**

**Understanding the Supply Chain, Performance, Drivers and Obstacles**

Objectives of supply chain, Stages of supply chain, Supply chain process cycles, Push/pull view of supply chain processes, Importance of supply chain flows, Examples of supply chain, Strategic decisions in supply chain management. Supply Chain Performance, Supply chain strategies, Achieving strategic fit, Product life cycle, Supply Chain drivers and Obstacles, Four drivers of supply chain – inventory, transportation, facilities, and information, Obstacles to achieve strategic fit. (10 hours)

**Planning Demand and Supply in a Supply Chain,**

Role of forecasting in a supply chain, Forecasting methods in a supply chain, Basic approach to demand forecasting, Time series forecasting methods, Aggregate planning resources, Managing economies of scale in a supply chain, Role of cycle inventory in a supply chain. (4 hours)

**Transportation and Coordination in a Supply Chain**

Facilities affecting transportation decisions, Transport selection, Modes of transportation and their performance characteristics, Trade-offs in transportation decision, Tailored transportation, Routing and scheduling in transportation, Making transportation decisions in practice, Models for transportation and distribution, Third party logistics (3PL). Coordination in a Supply chain, Lack of supply chain coordination and the Bullwhip effect, Effect of lack of coordination on performance, Obstacles to coordination, Achieving coordination in practice. (6 hours)

**Source Management and IT in Supply Chain**

Inventory management in supply chain, Information technology in supply chain, Typical IT solution, Reverse supply chain, Reverse supply chain Vs. Forward supply chain. (5 hours)

**Advanced topics in SCM**

Green, Lean, Sustainable, Global and Agile supply chain Management, Quality in Supply Chain (6 hours)

**Some Case Studies in SCM**

Minimum four Case Studies to be explained. (4 hours)



**Reference Books:**

1. Christopher Martin, *"Logistics and Supply Chain Management"*, Pearson Education Asia.
2. Chopra Sunil and Meindl Peter, *"Supply Chain Management – Strategy, planning and operation's"*, Pearson Education, Asia.
3. Kapoor K K, KansalPurva, *"Marketing logistics: A Supply Chain Approach"*, Pearson Education Asia.
4. Mohanty, R.P and Deshmukh, S.G., *"Supply Chain Management"*, Pearson Education Asia.
5. Fawcett, S. E., Ellram, L. M and Ogden, J. A., *"Supply Chain Management"* Pearson Education Asia.

**Course Outcomes**

Upon completion of this course, the students will be able to

CO1: Understand the decision phases and apply competitive & supply chain strategies.

CO2: Understand drivers of supply chain performance.

CO3: Analyze factors influencing network design.

CO4: Analyze the influence of forecasting in a supply chain.

CO5: Understand the role of aggregate planning, inventory, IT and coordination in a supply chain.

**MASTER OF TECHNOLOGY IN MECHANICAL ENGINEERING  
(INDUSTRIAL & PRODUCTION ENGINEERING)  
ME544T OPERATIONS MANAGEMENT**

L	T	P/D	Cr.
3	-	-	3.0

**Course Objectives:** To understand various concepts of Operations Management and apply this knowledge to understand the working of corporate world in depth.

**Contents:**

**Basics of Operations and Production Management:**

An Overview of Operations Management, Types of production, life cycle approach to production system, Productivity and Productivity measures, types of productivity index, productivity improvement, MRP. (6 hrs)

**JIT:**

JIT, requirements and problems in implementing JIT, Benefits of JIT, Introduction to JIT purchasing and JIT quality management, Lean manufacturing, Agile manufacturing (6 hrs)

**Supply Chain Management:**

Supply chain management, its importance, objectives and applications. Enabled supply chain supply chain drives concepts of stockless, VRM and CRM. (6 hrs)

**Business Processes Reengineering:**

Re-engineering-characteristics, organizational support, responsibility of re-engineering, re-engineering opportunities, choosing the process to re-engineer, success factors and advantages. (5 hrs)

**ERP:**

Evolution of ERP, Characteristics, approaches, methodology for implementation, Success factors. (5 hrs)

**Waste Management:**

Introduction, classification of waste, systematic approach to waste reduction, waste disposal. (4 hrs)

**Some Case Studies in OM**

Minimum four Case Studies to be explained. (4 hours)

**Reference Books:**

1. Mohanty, R. P. and Deshmukh, S. G. "Advanced Operations Management" Pearson Education.
2. Krishnaswamy, K. N., "Case in Production/ Operations management" Prentice Hall of India.
3. Muhlemann, A., Oakland, J., Lockyer, K., Sudhir, B. and Katyayani, J., "Production and Operations Management", Pearson Education South Asia.
4. Adam, E.E and Ebert, J.R.J., "Production and Operations Management" Prentice Hall of India.

**Course Outcomes**

Upon completion of this course, the students will be able to

- CO1: Develop an understanding of Production systems and their characteristics.
- CO2: Understand and analyze operations and supply chain management issues in a firm.
- CO3: Evaluate MRP and JIT systems against traditional inventory control systems.
- CO4: Understand basics of ERP and methodology for implementation of ERP.
- CO5: Discuss the approach to waste reduction.

*Revised*

MASTER OF TECHNOLOGY IN MECHANICAL ENGINEERING)  
(INDUSTRIAL & PRODUCTION ENGINEERING)  
ME544T OPERATIONS MANAGEMENT

L	T	P/D	Cr.
3	-	-	3.0

**Basics of Production Management:**

Types of production, life cycle approach to production system, Productivity and Productivity measures, types of productivity index, productivity improvement, production scheduling, MRP v/s JIT, requirements and problems in implementing JIT, Benefits of JIT, Introduction to JIT purchasing and JIT quality management (15 hrs)

Supply chain management, its importance, objectives and applications. Tenable supply chain supply chain drives concepts of stockless, VRM and CRM. (7 hrs)

**Business Process:**

Re-engineering-characteristics, organizational support, responsibility of re-engineering, re-engineering opportunities, choosing the process to re-engineer, success factors and advantages. (6 hrs)

**ERP:**

Evolution of ERP, Characteristics, approaches, methodology for implementation, Success factors. (7 hrs)

**Waste Management:**

Introduction, classification of waste, systematic approach to waste reduction, waste disposal. (5 hrs)

**Reference Books:**

1. Operation Research by D. S. Hira & P. K. Gupta,
2. Introduction to Operation Research by Hiller & Liebeman
3. Production and Operations Management by S.A.Chunawalla and D.R.Patel

*Present*

**S 31.5(S) To decide the grading system for new B.Tech. curriculum implemented with the session 2017-18.**

The Senate in its 30<sup>th</sup> meeting held on 6.6.2017 vide item no. 30.03 decided that the grading system needs to be introduced and an agenda may be put up for deliberations in next Senate. Currently 1<sup>st</sup> semester is ending in the mid of Nov. 2017, therefore, it is proposed that Existing evaluation system may be adopted as it is, for 2017-18 batch B.Tech. students.

The Senate may decide and finalize.